

ditary diseases, means that there is at present in the subject a minor condition of the nature of a congenital malformation. It is possible that under the most favourable conditions of life for the given defect it may never lead to a breakdown or become apparent, whilst under other and less favourable circumstances the weak point may give way and the defect become obvious. Such an explanation as this might be without hesitation accepted as accounting for the varieties of eye-defects recently referred to; and I believe that further investigation will show, as far as demonstration is possible, that the same line of argument may be used, not only with regard to the remaining diseases of the hereditary group described as (3) in Section V., but also to some at least of the congenital and hereditary malformations as well.

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A Revision of the *Forficulidæ*, with Descriptions of New Species in the British Museum. By W. F. KIRBY, F.L.S., F.E.S., of the British Museum (Natural History).

[Read 19th June, 1890.]

(PLATE XII.)

THE Forficulidæ, or Earwigs, have hitherto attracted less attention from Entomologists than any other group of Orthoptera. There are but few papers of any importance on the group; those by Dohrn in the 'Stettiner entomologische Zeitung' (vols. 24-26, 1863-1865), which include a descriptive synopsis, and Scudder's Catalogue of all the described species, in vol. 18 of the 'Proceedings of the Boston Society of Natural History' (1877), being the most useful. Since then several species have been described by De Bormans, Karsch, and others in various foreign periodicals.

Having lately rearranged this group in the British Museum, I judged that it would give a useful impetus to its study to publish a revised synopsis of the genera on the lines already indicated by Dohrn and De Bormans, and to describe as many new species as were before me in sufficiently good condition. Several of these were ticketed with MS. names by Prof. Westwood, which I have usually adopted.

One great drawback in the study of the Forficulidæ is deficiency of material. They are usually received in very small numbers and rarely in quite perfect condition, the antennæ, which are

extremely important for their classification, being almost always more or less broken. In many cases the sexes differ considerably, especially in the shape of the forceps. This usually varies considerably in the sexes, as well as in different individuals of the same sex, and yet there seems reason to believe that it will ultimately prove to be an important generic character. But for this purpose much larger series of specimens of both sexes and in different stages of development are required; and therefore I have refrained for the present from creating a multiplicity of new genera, though the mass of species included by Dohrn in *Forficula* is greatly in need of subdivision.

I consider the best method of measuring these insects to be from the point of the head to the end of the forceps, and also from the base of the last dorsal segment to the end of the forceps.

The number of species at present known is 348, including 39 described as new in the present paper, but exclusive of one or two doubtful larval (?) forms, perhaps not strictly belonging to the Forficulidæ (*Condylopalama*, Sund., and *Typhlolabia*, Scudd., the latter of which probably = *Iapyx* (*Thysanura*).

The genus *Pyragra*, Serv., which is imperfectly known at present, is likewise excluded from the Table. It is a South-American genus, probably allied to *Labidura*, and may be distinguished from *Demogorgon* by the presence of well-developed wings. (A few species, *doubtfully* referred to various genera in the following pages, may not always fully conform to the characters given in the Table.)

#### Genus I. APACHYUS, Serv.

*Serv. Ann. Sci. Nat.* xxii. p. 35 (1831).

*Apachya*, *Serv. Orth.* p. 54 (1839); *Dohrn, Stett. ent. Zeit.* xxiv. p. 42 (1863).

Type, *Forficula depressa*, Beauv., from W. Africa.

Not represented in the Museum Collection.

#### Genus II. TAGALINA, Dohrn.

*Dohrn, Stett. ent. Zeit.* xxiv. p. 44 (1863).

Type, *T. grandiventris*, Blanch., from the Solomon Islands.

There is one immature and imperfect specimen from Dinner Island, in the Museum Collection; probably a new species, but it would be useless to describe it.

TABLE OF THE GENERA OF THE FORFICULIDÆ.

(1)	Scutellum conspicuous ; tegmina and wings always developed. (2)	
(2)	First joint of the tarsi not longer than the second. (3)	
(3)	First joint of the tarsi much longer than the second. (4)	
(4)	First joint of the tarsi simple ; body depressed. (5)	<b>Apachyus.</b>
(5)	First joint of the tarsi broad ; body convex. (6)	<b>Tagalima.</b>
(6)	Antennæ with less than 12 joints. (7)	<b>Neolobophora.</b>
(7)	Antennæ with more than 12 joints. (8)	
(8)	Large species, with upwards of 25 joints to the antennæ. (9)	
(9)	Small species, with less than 25 joints to the antennæ. (10)	
(10)	Tegmina regularly rounded behind. (11)	<b>Pygidicrana.</b>
(11)	Tegmina obliquely truncated behind. (12)	<b>Thermastris.</b>
(12)	Antennæ with the joints beyond the 4th much longer than the 3rd and 4th, and cylindrical. (13)	
(13)	Antennæ with the joints beyond the 4th gradually lengthening, pyriform. (14)	<b>Nannopygia.</b>
(14)	Abdomen with segments 2 and 3 not laterally tuberculate. (15)	<b>Cylindrogaster.</b>
(15)	Abdomen with segments 2 and 3 laterally tuberculate. (16)	<b>Diplatys.</b>
(16)	Second joint of the tarsi dilated or lobate. (17)	
(17)	Second joint of the tarsi simple. (18)	
(18)	Abdomen with segments 2 and 3 not laterally tuberculate (spiny in some Indian species not yet separated from <i>Labidura</i> ). (19)	
(19)	Abdomen with segments 2 and 3 laterally tuberculate, well developed. (20)	
(20)	Tegmina and wings undeveloped. (21)	<b>Brachylabis.</b>
(21)	Body much depressed. (22)	
(22)	Body not remarkably depressed. (23)	<b>Platytabia.</b>
(23)	Body pubescent, short, broad ; forceps semitrilinear in male. (24)	
(24)	Body less pubescent, long ; forceps not semitrilinear in male. (25)	<b>Echinossoma.</b>
(25)	Forceps thickened and nearly contiguous at base. (26)	
(26)	Forceps less thickened at base and widely apart in male. (27)	
		Africa, E. Indies, Australia.
		S. America, Java.
		Eastern Islands.
		Ceylon.
		America, Java.
		Africa.
		General Distribution.
		America.
		Africa, Madagascar, Papua.
		Eastern Islands.
		America.

(15)	Forceps with large teeth on the thickened basal part.....	<b>Labidurodes.</b>	Papua.
	Forceps regularly denticulated or unarmed .....	<b>Psalis.</b>	America ; W. Africa (?)
(16)	Abdomen strongly punctured ; hinder edges of the segments not milled in the typical species.....	<b>Labidura.</b>	Old World.
	Abdomen less strongly punctured ; hinder edges of the segments milled ...	<b>Demogorgon.</b>	S. America.
(17)	Body much depressed. (18)		
	Body not remarkably depressed. (20)		
(18)	Antennæ 11-jointed .....	<b>Chætospania.</b>	Madagascar.
	Antennæ 15- to 20-jointed. (19)		
(19)	Antennæ with joints 3-6 equal, cylindrical.....	<b>Sparatta.</b>	Sumatra, Australia, S. America.
	Antennæ with joints 4-6 ovoid, very short ; 3 much longer.....	<b>Mecamera.</b>	S. America.
(20)	Tegmina absent or rudimentary ; wings absent .....	<b>Anisolabis.</b>	General Distribution.
	Tegmina always, wings usually, present. (21)		
(21)	Forceps very long and slender. (22)		
	Forceps not remarkably long and slender .....	<b>Labia.</b>	General Distribution.
(22)	Legs short .....	<b>Auchenomus.</b>	Madagascar.
	Legs long.....	<b>Spongophora.</b>	General Distribution.
(23)	Second joint of tarsi produced into a lobe under the third .....	<b>Chelisoches.</b>	Old World.
	Second joint of tarsi short, dilated. (24)		
(24)	Forceps contiguous at base in male. (25)		
	Forceps diverging at base in male. (26)		
(25)	Forceps flattened at base in male, then diverging .....	<b>Forficula.</b>	General Distribution.
	Forceps subcontiguous throughout .....	<b>Carcinophora.</b>	S. America.
(26)	Wings and tegmina absent or rudimentary. (27)		
	Wings and tegmina usually well-developed. (28)		
(27)	Small species ; abdomen broadest in the middle .....	<b>Apterygida.</b>	
	Large species ; abdomen broadest at the extremity .....	<b>Chelidura.</b>	
(28)	Abdomen slender, sides nearly parallel .....	<b>Sphingolabis.</b>	
	Abdomen short, often stout and dilated. (29)		
(29)	Legs very long and slender. (30)		
	Legs not remarkably long and slender.....	<b>Anechura.</b>	
(30)	Abdomen with long lateral recurved spines in male ; forceps usually stout.	<b>Ancistrogaster.</b>	S. America.
	Abdomen unarmed, or with short lateral spines, not recurved in male .....	<b>Opisthocosmia.</b>	

Genus III. PYGIDICRANA, *Serv.*

*Serv. Ann. Sci. Nat.* xxii. p. 30 (1831); *Orth.* p. 19 (1839);

*Dohrn, Stett. ent. Zeit.* xxiv. p. 46 (1863).

Type, *P. v.-nigrum*, *Serv.*, from Brazil.

PYGIDICRANA HORSFIELDI, sp. n. (Pl. XII. figs. 11, 11 a.)

Long. corp. 21 millim.; segm. term. cum forcip. 6 millim.

*Male.* Blackish-brown; antennæ upwards of 22-jointed; clypeus, except at base, lower mouth-parts, and legs rufo-testaceous; lateral borders of pronotum and wings straw-coloured; tegmina and forceps inclining to chestnut; terminal segment of abdomen very large, fully as large as the four penultimate segments together; forceps about as long as the terminal segment, simple, pointed, and strongly upcurved at the extremity.

*Hab.* Java (*Horsfield*).

Allied to *P. pallidipennis*, De Haan, but much smaller and darker.

PYGIDICRANA STAPHYLINOIDES, *Walk.*

*Olyntha staphylinoides*, *Walk. List Neur. Ins. B. M.* iii. p. 532, n. 3 (1853).

Described by Walker from a headless and tailless fragment; but a second specimen, likewise in poor condition and immature, shows it to be a *Pygidicrana*, which may be briefly described as follows:—

*Female.* Long. corp. 14 millim.; segm. ult. cum forcip. 5½ millim.

Head above dull black; mouth-parts and under surface brown; antennæ brown; scape nearly black above, paler below; pronotum testaceous, with a wide brown band on each side; tegmina brown, scutellum and suture probably pale; legs testaceous; femora marbled with brown above; abdomen black, very hairy, with a pale longitudinal band covering the middle five segments on the upper side; forceps red, contiguous, unarmed.

*Hab.* Santarem.

This insect cannot be the immature form of any known American species, for in all these the scape of the antennæ is paler than the flagellum. I should not have described it from so poor a specimen, had it not been already on our lists under the name of *Olyntha staphylinoides*, as the supposed larva of a Neuropterous insect.

Genus IV. THERMASTRIS, *Dohrn*.

*Dohrn, Stett. ent. Zeit.* xxiv. p. 61 (1863); *Scudd.*  
*Bull. U. S. Geol. Surv.* ii. p. 249 (1876).

Type, *Forficula brasiliensis*, Gray.

I do not understand why Dohrn places this genus among those with the scutellum concealed. In the three species before me (*T. brasiliensis*, Gray, *T. Saussurei*, Dohrn, and *T. chontalia*, Scudd.) the exposed scutellum is as large as in *Pygidicrana*. It is true that the scutellum is concealed in Serville's figure of his *Pyragra fuscata*; but I cannot follow De Bormans in placing *Thermastris* as a synonym of *Pyragra*.

Genus V. CYLINDROGASTER, *Stål*.

*Stål, Æfv. Vet.-Akad. Förh.* xii. p. 350 (1855).

Type, *C. gracilis*, Stål, from Rio Janeiro.

In this curious little genus I have two species to describe, one Eastern and one Western.

## CYLINDROGASTER NIGRICEPS, sp. n.

Long. corp. 11 millim.; segm. ult. cum forcip. 3 millim.

Head deep black, a groove within each eye, running to the occiput; clypeus black, shining; labrum transverse, pale yellow, as are also the palpi; neck yellow; antennæ 19-jointed, chocolate-brown, scape black; pronotum half as long again as broad, black, with the hind border broadly pale yellow, this colour curving up the sides nearly to the broadest part of the pronotum; scutellum reddish brown, with a yellow dot at the extremity; tegmina reddish brown, the costa rather broadly black; visible part of the wings yellow, with a large dusky spot before the extremity; abdomen reddish brown, terminal segment black and shining, forceps reddish towards the extremity; legs yellow; femora and tibiæ broadly black in the middle.

*Hab.* Hong Kong.

## CYLINDROGASTER JANSONI, sp. n.

Long. corp. 10 millim.; segm. ult. cum forcip. 3 millim.

*Male.* Head shining black, a strong lateral ridge behind the eyes, and extending at nearly right angles across the occiput; palpi tawny; antennæ with the scape black, and the flagellum

tawny, gradually darkening, and clothed with very short hairs; joint 2 transverse, joints 3 and 5 about twice as long as broad, joint 4 shorter and joint 6 longer; joints 3-6 are pear-shaped, though 4 is rather truncated at the base; joints 7-12 are longer, more slender, and linear, but slightly rounded at each end; the rest are wanting; pronotum and base of tegmina luteous, the sides and back of the pronotum paler, rounded, and raised; legs luteous, knees broadly black; tegmina black, except at base, with a few long white bristles near the edges; wings whitish, tipped with black, on the black portion stand several long white bristles; abdomen reddish, the segments well separated; forceps very stout, contiguous, triquetral, regularly denticulated and hairy on the inner edge, slightly raised towards the tips; the extreme points are turned inwards almost at a right angle.

*Hab.* Chontales, Nicaragua.

Genus VI. *DIPLATYS*, *Serv.*

*Serv. Ann. Sci. Nat.* xxii. p. 50 (1831); *Orth.* p. 50 (1839).

Type, *Forficula macrocephala*, Beauv., from Benin.

Unrepresented in the British Museum collection.

Genus VII. *NANNOPYGIA*, *Dohrn.*

*Dohrn, Stett. ent. Zeit.* xxiv. p. 60 (1863).

Type, *N. Gerstaeckeri*, Dohrn, from Ceylon.

*NANNOPYGIA DOHRNI*, sp. n.

Long. corp. 10 millim.; segm. ult. cum forcip.  $2\frac{1}{2}$  millim.

*Female.* Blackish or dark brown, very shining; tegmina purplish, scutellum distinct, abdomen reddish, wings not visible; antennæ at least 13-jointed, brown, joints 1-3 yellowish, and 13 and extremity of 12 whitish; legs testaceous, femora ringed with black; abdomen punctured, segments 2 and 3 with small lateral tubercles, terminal segment large, quadrate; forceps broad, cultriform, subcontiguous, denticulated on the inner edge, and rather abruptly hooked at the tip.

*Hab.* Ceylon.

Genus VIII. *ECHINOSOMA*, *Serv.*

*Serv. Orth.* p. 34 (1839); *Dohrn, Stett. ent. Zeit.*

xxiv. p. 63 (1863).

Type, *Forficula afra*, Beauv., from S. Africa.

Includes several other African and Oriental species.

## ECHINOSOMA FORBESI, sp. n. (Plate XII. fig. 9.)

Long. corp. 11-14 millim.

Black, setose, moderately broad. Head with a crescent-shaped depressed line on the vertex behind the eyes; labrum and palpi pale yellow. Antennæ with upwards of 25 joints (apparently not quite complete), first two joints pale yellow, the rest chocolate-brown; scape dilated,  $1\frac{1}{2}$  times longer than broad, 3rd joint slender, at least twice as long as broad, joints 2, 4, 5, 6, 7 about as long as broad, the rest rather longer; pronotum rather variable, median line generally pale, a pale spot on the lateral margins, between which and the median line is often a smaller and yellower one, towards the extremity; tegmina with 2 tawny or yellowish dashes near the base, on each side, one near the suture and another on the side; exposed part of the wings pale yellow, but the greater part filled up, except at the base and at the extreme margins, by a large black blotch, longest near the suture; abdomen with the segments narrowly edged behind with a red line, from which 6 short, straight, red dashes project; forceps dull red; legs pale yellow, the femora, except at the tips, and a wide band at the base of the tibiæ, black.

*Hab.* Dinner Island (*H. O. Forbes*).

Described from four females and one male. The male is greyer, more strongly punctured, and rather more obscurely marked, and the forceps are curved instead of straight; otherwise there is but little difference in the sexes.

Allied to *E. yorkense*, Dohrn, and to *E. sumatranum*, De Haan.

Genus IX. PYRAGRA, *Serv.*

*Serv. Ann. Sci. Nat.* xxii. p. 31 (1831); *Orth.* p. 32 (1839).

Type, *P. fuscata*, *Serv.*, from Cayenne.

This genus has some resemblance to *Thermastris*, with which De Bormans unites it; but seems to differ by its more slender form and concealed scutellum. It is perhaps more nearly related to *Labidura*. It is unknown to me except from Serville's description and figure of the type.



Genus X. LABIDURA, *Leach*.

*Leach, Edinb. Encycl.* ix. p. 118 (1815); *Dohrn, Stett. ent. Zeit.* xxiv. p. 309 (1863); *Scudd. Bull. U. S. Geol. Surv.* ii. p. 250 (1876).

Type, *Forficula riparia*, Pall. (*gigantea*, Fabr.).

*Forficesila, Serv. Ann. Sci. Nat.* xxii. p. 32 (1831); *Orth.* p. 21 (1839).

LABIDURA RIPARIA, *Pall.*

*Forficula riparia, Pall. Reise*, ii. *Anhang*, p. 30 (1773).

*Hab.* Cosmopolitan.

I believe that the description of the unrecognized *Forficula herculeana*, Fabr., from St. Helena, was probably taken from a dark or discoloured specimen of this insect, which is said to attain to a very large size in the island mentioned.

LABIDURA (?) PUGNAX, sp. n. (Plate XII. fig. 1.)

♂. Long. corp. 42 millim.; segm. ult. cum forcip. 20 millim.

♀. Long. corp. 25 millim.; segm. ult. cum forcip. 9 millim.

*Male.* Black, clothed with a fine greyish silky pubescence; antennæ, clypeus, palpi, head and thorax beneath, sides and hind borders of pronotum, sutural and marginal edges of tegmina (very narrowly), and those of the exposed part of the wings (narrowly) reddish; legs uniformly testaceous. Abdomen finely granulated, segments 2-5 with very strong lateral spines, basal segment with smaller ones, hinder edges of segments 3-5 milled above only, terminal segment smooth, much depressed in the middle; forceps very large, smooth, very slightly dentated on the inner sides, a triangular elevation at the base of the upper carina, a strong tooth on the inside at about one fourth of the length of the forceps, which are wide apart at the base, and run slightly curving outwards for two-thirds of their length, when they suddenly curve inwards and almost meet in an obtuse projection, thence they run nearly straight, but slightly converging to the hooked tips, which cross.

*Female* similar, but the abdomen is neither spiny nor milled, and the forceps simply curve outwards and then inwards, in a weaker hook than in the male; they are more strongly and thickly denticulated on the inner edge than in the male, and at about three-fourths of their length there is a small tooth pointing obliquely downwards.

*Hab.* North India.

There are several Indian species of spiny Earwigs which should, no doubt, form a distinct genus; but the only specimens before me are the somewhat defective pair from which the above description has been drawn up. The remaining joints of the antennæ are longer than in typical *Labidura*.

*LABIDURA* (?) *DECIPIENS*, sp. n.

Long. corp. 14 millim.; segm. ult. cum forcip.  $5\frac{1}{2}$  millim.

*Male*. Rufo-testaceous; antennæ at least 22-jointed, the end of the scape and all the joints beyond the third brown; joint 2 transverse, 3 fully twice as long as broad, linear, 4 oval, only half as long again as broad, 5 and 6 successively longer, 3 and 5 being about equally long, the remainder linear, very long; head with the vertex red and the mouth-parts pale; pronotum nearly twice as long as broad, dull pale testaceous on the sides and behind, the hinder part dusky in the middle, forming the commencement of a blackish band on the suture of the tegmina and wings, which are straw-coloured, bordered outside with blackish; tegmina only about twice as long as the pronotum, and wings about half as long; legs testaceous, femora shading into pale red; abdomen dull red, strongly punctured, 2nd segment with conspicuous lateral tubercles; terminal segment with 4 rather conspicuous teeth at the extremity in the middle, and smaller ones on the sides; pygidium broad, but not conspicuous; forceps rather wide apart at the base, gradually incurved and meeting at the tips, a strong black-tipped tooth about the middle, and another at three-fourths of the length of the forceps; before the first is a row of small teeth, one near the base, three near the middle tooth, and several between, coalescing into a ridge.

*Hab.* Assam.

This curious species will form a new genus when it is better known. Although best placed with *Labidura* for the present, it has a striking resemblance to *Sphingolabis africana*, Dohrn, *S. suturalis*, Serv., &c. Lateral tubercles do not occur in typical *Labidura*.

*LABIDURA* *GRANULOSA*, sp. n.

Long. corp. 32 millim.; segm. ult. cum forcip. 14 millim.

*Male*. Dark reddish brown, granulated, the head very finely, the pronotum, tegmina, wings, and abdomen more coarsely; head, wings, and abdomen inclining to reddish; antennæ (of which 20

joints remain) brown above, inclining to testaceous at the base and beneath; legs testaceous; pronotum black, the lateral margins testaceous; tegmina nearly black, the suture with a rusty-red band; wings and abdomen darker reddish brown, the two penultimate segments of the latter nearly black; terminal segment very large, gradually but distinctly widening from the base to the extremity, depressed in the middle, with no terminal spines, but with a small prominence on each side at the base of the forceps; pygidium rather more prominent than in *L. riparia*, and cut off square at the extremity; forceps rather stout, especially at the base, shaped nearly as in *L. riparia*; a small tooth on the lower carina at one-third of the length of the forceps, and a larger one on the inner curve at two-thirds.

*Hab.* Philippines.

Allied to *L. riparia*, but a very large dark species, with the terminal segment of the abdomen differently constructed.

*LABIDURA PLUVIALIS*, sp. n.

Long. corp. 27 millim.; segm. ult. cum forcip. 11 millim.

*Male.* Black, the antennæ, mouth-parts, under surface of the head, pectus, sides of the abdomen, and legs testaceous or tawny; sides of pronotum and of tegmina, suture of the latter and terminal segment of abdomen, including forceps, reddish; a black dash on the sides of the pronotum below the pale lateral ridge; abdomen thickly and finely punctured, more coarsely below than above, terminal segment with a slight hump on each side above the base of the forceps, and a depression on the median line followed by one projecting tooth in the middle; forceps rather stout, smooth, with a small tooth projecting obliquely downwards at three-fourths of their length, and the tips, which shade into blackish, are upcurved.

*Hab.* Raine Island.

Allied to *L. riparia*, Pall., but the tegmina are more rounded at the tips, the wings are absent or concealed, and the abdomen ends in one middle spine instead of two.

*LABIDURA* (?) *CLARKI*, sp. n.

Long. corp. 20 millim.; segm. ult. cum forcip. 7 millim.

*Female.* Head smooth, red; mouth-parts, antennæ, and legs pale yellow; antennæ 20-jointed, sparingly clothed with short erect hairs, the space widened, joint 2 transverse, joint 3 twice as

long as broad, joints 4-6 hardly longer than broad, but those beyond the 4th gradually lengthening and growing rather more slender; the joints towards the tip about 4 times as long as broad, and the last joint half as long again as any of the preceding. Pronotum blackish, the raised margins and a central line ferruginous. Tegmina coriaceous, the suture ferruginous, and the outer edge yellowish; exposed portion of wings one-third as long as the tegmina, coarsely reticulated, dark brown, slightly bordered with yellowish; scutellum slightly exposed. Abdomen reddish brown, paler beneath and on the sides; last joint rather short, with a slight protuberance on each side above the base of the forceps, which are long, blackish, slightly varied with reddish, nearly straight, unarmed, and slightly upturned and incurved at the extremity.

*Hab.* Rio Janeiro (collected by the late Rev. Hamlet Clark).

LABIDURA MOROSA, sp. n.

Long. corp. 21 millim.; segm. ult. cum forcip. 7 millim.

*Female.* Black; antennæ, mouth-parts, lateral borders of pronotum, and wings castaneous; legs paler; forceps dark red, broad and approximating at the base and meeting at the tips, a very strong carina on the upper surface, the inner and lower edge denticulated (most strongly towards the base) as far as a very strong tooth at about five-sixths of their length.

*Hab.* — ?

Not closely allied to any known species. I usually refrain from describing species of unknown locality, but in this insect the form of the forceps is so unusual as to allow of its being recognized at once.

Genus XI. DEMOGORGON, g. n.

*Male.* Head convex, as broad or rather broader than the prothorax behind; antennæ with about 30 joints, scape widened, joints 2, 4, 5 rounded, the rest oblong and gradually increasing in length to about the middle, beyond which they are slender and of about equal length.

Pronotum half as long again as broad, slightly depressed across the middle, with raised margins, the hinder part somewhat raised and widened.

Elytra truncated behind; wings absent or concealed.

Abdomen long, slightly widened beyond the middle, the dorsal segments gradually diminishing in length to the 7th; 5th and 6th as if milled on the hind border; terminal segment very large, nearly square, slightly humped above the inner base of the forceps but without teeth; on the ventral surface it slopes backward, so that the penultimate ventral segment, which is subtriangular and reaches nearly to the extremity of its ventral portion, not only leaves the sides widely uncovered, but also that part of the lower surface, really belonging to the dorsal portion, which slopes backwards between the base of the forceps.

Forceps rather long and stout, widely separated at the base, with several blunt teeth beyond the middle, and curved upwards.

Legs moderately long and slender, clothed with short hairs; first joint of the tarsi densely hairy beneath; front femora rather shorter and stouter than the others.

*Female* with the forceps long, contiguous, unarmed, slightly upcurved, and crossed at the extremity.

Allied to *Labidura*; type *D. Batesi*, sp. n., but will also include *L. livida*, Dubr., and some other American species.

DEMOGORGON BATESI, sp. n. (Plate XII. figs. 3, 3 a.)

Long. corp. 36 millim.; segm. ult. cum forcip. 15 millim.

*Male*. Yellowish, the front of the body inclining to grey, the abdomen to tawny; mandibles blackish; tegmina with the suture shading into tawny. Abdomen with the segments finely punctured towards the extremity, segments 5 and 6 very strongly milled; last segment smooth above, with a depressed line on the middle; segments 2-7 above and beneath blackish in the middle towards the extremities, and segments 3-6 are also blackish on the upper part of the sides; forceps shading into blackish towards the extremity.

*Hab.* Santarem.

Closely allied to *D. livida*, Dubr., though nearly twice the size; but the eyes are unicolorous, whereas in *D. livida* they are deep black.

DEMOGORGON BICOLOR, sp. n.

Long. corp. 29 millim.; segm. ult. cum forcip. 10 millim.

*Male*. Luteous, inclining to reddish; head beneath, pectus, and base and sides of the abdomen paler. Eyes black. Pro-

notum with a black stripe on each side within the raised margins, tapering and ceasing before the hind margin. Hinder raised part of the pronotum, and tegmina coriaceous. Tegmina black, the suture with a reddish band, tapering, but extending quite to the extremity. Hinder half of the abdomen (the terminal segment excepted) reddish above and below in the middle, shading into blackish towards the ends of the segments, punctured, and in segments 3 and 6 above, and in 4 and 5 below, longitudinally ridged or milled; terminal segment and forceps luteous, the former with a depression on the median line above, and with slightly reddish tubercles above the base of the forceps. Hinder half of the forceps shading into dark red.

*Hab.* South America (precise locality unrecorded).

**DEMOGORGON ADELPHUS, sp. n.**

Long. corp. 25 millim.; segm. ult. cum forcip. 10 millim.

*Male.* Luteous tawny; antennæ (which are about 30-jointed), eyes, and under surface paler. Pronotum finely coriaceous; tegmina more closely so, and covered with small tubercles close together. Pronotum black above, the neighbourhood of the median line irregularly reddish, the lateral margins edged with a narrow pale line. Tegmina black, the lateral margins edged with a very narrow pale line; a tapering reddish band on the suture, hardly reaching the extremity. Abdomen with most of the segments (except the terminal one) blackish in the middle above and below; segments 4 and 5 below, and 5 and 6 above milled, segment 7 very narrow above, almost obsolete; terminal segment and forceps as in *D. bicolor*.

*Hab.* Brazil (Catagallo).

**DEMOGORGON PATAGONICUS, sp. n.** (Plate XII. fig. 2.)

Long. corp. 23 millim.; segm. ult. cum forcip. 8 millim.

*Female.* Tawny; head reddish above, eyes black; antennæ 23-jointed; pronotum reddish, with a wide black band on each side, very narrowly edged with pale outside, and curving inwards at the extremity; tegmina similarly coloured, the red band on the suture regularly narrowing behind; abdomen with most of the segments blackish in the middle above and reddish below, finely punctured above, and more coarsely beneath, but not milled; forceps reddish, paler at the base above, and blackish

towards the tips, which are incurved, crossed, and slightly raised. At the base they are subcontiguous; the inner edge is denticulated.

*Hab.* Patagonia.

Possibly the female of one of the foregoing species.

Genus XII. PSALIS, *Serv.*

*Serv. Ann. Sci. Nat.* xxii. p. 84 (1831); *Burm. Handb. Ent.* ii. p. 753 (1839); *Scudd. Proc. Bost. Soc. Nat. Hist.* xviii. p. 297 (1876); *Bull. U. S. Geol. Surv. Territ.* ii. p. 250 (1876).

Type, *Forficula americana*, Beauv., from Tropical America.

PSALIS (?) PICINA, sp. n.

Long. corp., ♂  $12\frac{1}{2}$  millim., ♀ 10 millim.; ♂ ♀, segm. ult. cum forcip. 3 millim.

Pitchy; head, tegmina, and forceps inclining to reddish; abdomen (and pronotum in the male) darker; antennæ 19-jointed, brown, paler beneath; joints 1, 2, 17, and 18 in ♂, 1, 2, 16, and 17 in ♀ whitish; pronotum nearly twice as long as broad in the male, shorter in the female, the lateral margins testaceous; wings narrowly bordered with testaceous on each side at the base and along the suture; legs testaceous; abdomen punctured; forceps contiguous, gradually curved, and crossing at the extremities, denticulated on the inner edge.

*Hab.* Gambia.

Much resembles *Labidura rufescens*, Beauv.; but this species is described as having at least 30 joints to the uniformly pale antennæ.

Genus XIII. LABIDURODES, *Dubr.*

*Dubr. Ann. Mus. Genov.* xiv. p. 385 (1879).

Type, *L. robustus*, Dubr., from Papua.

Not represented in the Museum Collection.

Genus XIV. ANISOLABIS, *Fieb.*

*Fieb. Lotos*, iii. p. 257 (1853); *Scudd. Bull. U. S. Surv. Territ.* ii. p. 251 (1876).

Forcinella, *Dohrn, Stett. ent. Zeit.* xxiii. p. 226 (1862), xxv. p. 285 (1864).

Brachylabis, p., *Dohrn, l. c.* xxv. p. 292 (1864).

Type, *Forficula maritima*, Gén , from Europe.

*Labidura advena*, Mein., from Jamaica, proves to belong to this genus.

*ANISOLABIS RUFESCENS*, sp. n. (Plate XII. fig. 10.)

Long. corp. 29 millim. ; segm. ult. cum forcip. 9 millim.

*Male*. Head red, black above in front, and the red part behind marked with several black lines to the occiput ; a red spot on each side of the vertex, within each eye ; clypeus brown, bordered with yellowish ; mandibles and extremity of the labrum red ; antennæ 21-jointed ; scape reddish ; flagellum yellowish brown, thickly clothed with short diverging hairs ; pronotum red ; basal segments of abdomen red above, and bordered with blackish behind ; beneath, the rest of the abdomen and the forceps black, thickly and finely punctured, more coarsely punctate-striate on the sides ; forceps thick, broadened beyond the base, but without a basal tooth ; the inside of the curve denticulated, the right side rather more curved and shorter than the left ; legs reddish, rather paler than the thorax ; pygidium exposed, bifid at the extremity.

*Hab*. Cameroons.

Apparently allied to *A. mauritanica*, Luc., but much larger and differently coloured.

*ANISOLABIS XENIA*, sp. n.

Long. corp. 22–25 millim.

Dark chestnut-brown, more or less inclining to red ; antennæ and legs testaceous ; femora distinctly brownish before the tips ; forceps very stout, crossed, the right one in the ♂, as usual, shorter and more curved ; ♂ with two, ♀ with three, large triangular teeth on the inside between the base and the middle.

*Hab*. Norfolk Island.

Allied to *A. littorea*, White, from New Zealand.

*ANISOLABIS ANTENNATA*, sp. n.

Long. corp. 9 millim. ; segm. ult. cum forcip. 2 millim.

*Female*. Reddish brown above ; the forceps, which are rather long and crossed at the tips, redder ; under surface pale, but darkening beyond the middle of the abdomen, towards the red forceps ; antennæ brown, the joints spotted with pale at the base and tip, and joints 1, 2, and 12 entirely pale (the rest broken off), hind femora pale brown in the middle.

*Hab*. Bermuda.



Possibly a variety of *A. azteca*, Dohrn; but in that species the femora are more distinctly ringed with fuscous, and the 9th joint of the antennæ is pale. However, De Bormans mentions a specimen from Palmal, which he considers to be a variety of *A. azteca*, in which joints 1, 2, 10, and 11 are whitish.

Genus XV. BRACHYLABIS, *Dohrn*.

*Dohrn, Stett. ent. Zeit.* xxv. p. 292 (1864); *De Borm. Ann. Soc. Ent. Belg.* xxvii. p. 64 (1863).

Type, *Forficula chilensis*, Blanch., from Chili.  
Not represented in the Museum Collection.

Genus XVI. PLATYLABIA, *Dohrn*.

Platylabia, *Dohrn, Stett. ent. Zeit.* xxviii. p. 347 (1867).  
Labidophora, *Scudd. Proc. Bost. Soc. Nat. Hist.* xviii. p. 297 (1876).

Type, *P. major*, Dohrn, from Celebes.

PLATYLABIA NIGRICEPS, sp. n.

Long. corp. 10 millim.; ult. segm. cum forcip. 3 millim.

*Male.* Luteous; head, except the mouth-parts and under surface, tegmina, except at the base, and wings shining black; abdomen darkening into reddish, the hinder edge and forceps blackish, the latter reddish towards the tips; the whole body set with long pale divergent hairs, most distinct on the antennæ and forceps; tegmina and wings coriaceous; abdomen finely and thickly punctured; pygidium nearly square, with slightly projecting hinder angles, and a projection in the middle; forceps long, nearly straight, but converging at the tips; on the inner side there is a strong tooth about the middle.

*Hab.* Dorey.

Resembles *P. thoracica*, Dohrn, in shape, size, and general appearance.

Genus XVII. CHÆTOSPANIA, *Karsch*.

*Karsch, Berl. ent. Zeitschr.* xxx. p. 87 (1886).

Type, *C. inornata*, Karsch, from Madagascar.  
Not in the Museum Collection.

Genus XVIII. SPARATTA, *Serv.*  
*Serv. Orthoptères*, p. 51 (1839).

Type, *S. pelvimetra*, *Serv.*, from Brazil.

SPARATTA HORSFIELDI, sp. n.

Long. corp. 12 millim. ; segm. ult. cum forcip. 4 millim.

*Female.* Dull red or tawny; head light red, smooth, with the occipital suture well-marked; antennæ at least 14-jointed, black, 2nd joint transverse, the rest oval or pear-shaped, set with short diverging hairs, scape light red, joints 11 and 12 pale; head somewhat concave behind; prothorax forming a distinct neck, the anterior angles being strongly marked; pronotum brown in front and tawny yellow behind; tegmina varying from brown to tawny according to the light; wings darker, with the edges narrowly pale; legs (as well as the head and pectus) luteous tawny; abdomen dull reddish, blackish on the sides at the base; extremity also blackish; forceps light red, gradually incurved and meeting at the points, the inner edge regularly denticulated; pygidium yellowish, very wide and short, and concave at the extremity.

*Hab.* Java.

Not closely allied to any described species.

Genus XIX. MECOMERA, *Serv.*  
*Serv. Orth.* p. 53 (1839).

Type, *M. brunnea*, *Serv.*, from S. America.

Not represented in the Museum Collection.

Genus XX. LABIA, *Leach.*

*Leach, Edinb. Encycl.* ix. p. 118 (1815); *Dohrn, Stett. ent. Zeit.* xxv. p. 423 (1864); *Scudd. Bull. U.S. Geol. Surv. Territ.* ii. p. 257 (1876).

Type, *Forficula minor*, *Linn.*, from Europe.

LABIA BUPRESTOIDES, sp. n. (Plate XII. fig. 8.)

Long. corp. 13-16 millim. ; segm. ult. cum forcip. 5-6 millim.

Head and abdomen, except the terminal segment, black; antennæ 16-jointed, brown, clothed with short hairs; pronotum and tegmina metallic green, the former less intense and slightly tinged with coppery at the edges; wings white, the exposed part

metallic green, except a conspicuous spot at the base and a narrow edging; legs testaceous; femora black, spotted with testaceous, or with the whole of the grooved under surface testaceous; tibiæ with two black spots above; terminal segment of abdomen and forceps luteous, the latter blackish and crossed at the tips. Forceps wide apart in the male, with a small tooth on the inner edge at the base, thence regularly denticulated to four-fifths of their length where there is a much larger triangular tooth. Forceps in the female more strongly but irregularly denticulated, and without the two larger teeth present in the male. The pygidium is not distinctly visible in any of the three specimens before me.

*Hab.* Ega.

Probably allied to *L. chalybea*, Dohrn.

This species, which is one of the largest of the genus, clearly mimics some metallic beetle belonging either to the *Buprestidæ* or to the *Staphylinidæ*.

LABIA (?) GLABRICULÄ, sp. n.

Long. corp. 5 millim.; segm. ult. cum forcip.  $1\frac{1}{2}$  millim.

*Male.* Head, pronotum, tegmina, and wings shining black, finely punctured; mouth-parts and 10-jointed antennæ dull tawny; abdomen dark chestnut-brown, becoming reddish towards the extremity and on the forceps; pronotum rounded behind, subquadrate, the lateral margins testaceous; tegmina twice as long as broad; wings rather pointed; abdomen rather broad, reddish brown, rather coarsely punctured, last segment and forceps red; the latter rather wide apart at base, but curving sharply inwards and crossing at the tips; they are smooth, with scattered pale yellow hairs, and one tooth near the base.

*Hab.* Santarem.

Possibly allied to *L. arcuata*, Scudd.

LABIA TRICOLOR, sp. n.

Long. corp.  $4\frac{1}{2}$  millim.; segm. ult. cum forcip. 2 millim.

*Male.* Head shining black; mouth-parts, 10-jointed antennæ, and legs rufo-testaceous; pronotum, tegmina, and wings purplish brown; abdomen reddish; forceps rather long, subparallel, but touching at the tips, denticulated on the inner edge; pygidium long and narrow, one third as long as the forceps, and bifid at the extremity.

*Hab.* Santarem.

Genus XXI. SPONGOPHORA, *Serv.*

Spongiphora, *Serv. Ann. Sci. Nat.* xxii. p. 31 (1831).

Spongophora, *Agass. Nom. Zool.* p. 349 (1846); *Scudd. Bull. U.S. Geol. Surv. Territ.* ii. p. 251 (1876).

Psalidophora, *Serv. Orth.* p. 29 (1839); *Dohrn, Stett. ent. Zeit.* xxv. p. 417 (1864).

Type, *S. croceipennis*, *Serv.*, from Brazil.

SPONGOPHORA DYSONI, sp. n. (Plate XII. fig. 6.)

Long. corp. 20 millim.; segm. ult. cum forcip. 9 millim.

*Female.* Head blackish above; the mouth-parts and occiput reddish; antennæ at least 17-jointed, tawny; pronotum dark brown, the lateral carinæ paler; tegmina chestnut-brown, emarginate at tips; exposed part of wings luteous, bordered with chestnut; terminal segment of abdomen tawny, with some obsolete, brown, longitudinal stripes above, strongly punctured towards the extremity; pygidium emarginate, and therefore distinctly bifid; forceps long, gradually curved, thickened towards the base and very slightly denticulated, meeting at the tips; legs straw-coloured, femora striped both above and below with brown; body beneath testaceous, sides of abdomen darker.

*Hab.* Venezuela.

A comparatively short and stout species; it most resembles an insect from Theresopolis, which may be the female of *S. theriminieri*, *Serv.*, or *S. flavipennis*, *Burm.*, which are probably distinct from *S. croceipennis*, *Serv.* This, too, has the terminal segment and forceps pale.

Genus XXII. CHELISOCHES, *Scudd.*

*Scudd. Proc. Bost. Soc. Nat. Hist.* xviii. p. 295 (1876).

|| *Lobophora*, *Serv. Orth.* p. 32 (1839).

Type, *Forficula morio*, *Fabr.*, from the Eastern Archipelago.

CHELISOCHES TENEBRATOR, sp. n. (Plate XII. fig. 5.)

Long. corp. 25 millim.; segm. ult. cum forcip. 10 millim.

*Female.* Chestnut-brown, forceps and abdomen beneath reddish; antennæ 18-jointed, the second transverse, all the rest much longer than broad, but the 4th distinctly shorter than the 3rd and 5th; joint 12 (except at base), and joints 13 and 14 entirely

straw-colour; front of pronotum with three depressed lines in the middle, beyond which is a long hump on each side; wings well developed. Abdomen finely punctured, segment 7 milled at the extremity, above, last segment comparatively short; pygidium strong, truncated; forceps smooth, very slightly curved outwards in the middle, a strong tooth on the inside at the base, and one or two very small ones in the middle, tips incurved.

*Hab.* India.

Allied to *C. morio*, Fabr.

CHELISOCHES (?) PICTICORNIS, sp. n. (Plate XII. fig. 4.)

Long. corp. 22 millim.; segm. ult. cum forcip. 9 millim.

*Male.* Inky black, the lower mouth-parts and under surface of the tarsi inclining to rufo-testaceous; antennæ with the first six joints red, joints 7-9 black, 10 white, the rest wanting; pronotum quadrate, a little longer than broad; tegmina about twice as long, and wings extending beyond them for a distance about one third of the length of the tegmina; the greater part of the body finely coriaceous; base of the segments of the abdomen with large, distant, shallow pits, 2nd and 3rd segments tuberculate on the sides; pygidium rather broad, subtruncated; forceps as long as the abdomen, distant at base, smooth, curving gradually outwards and inwards, towards the base depressed and keeled, and with a moderately strong triangular tooth about the middle.

*Hab.* Philippines.

This insect is probably the male of *Forficula lobophoroides*, Dohrn.

#### Genus XXIII. AUCHENOMUS, *Karsch.*

*Auchenomus*, *Karsch, Berl. ent. Zeitschr.* xxx. p. 89 (1886).

Type, *A. longiforceps*, Karsch, from Madagascar.

Not represented in the Museum Collection.

#### Genus XXIV. NEOLOBOPHORA, *Scudd.*

*Scudd. Proc. Bost. Soc. Nat. Hist.* xvii. p. 281 (1875); *Bull.*

*U.S. Geol. Surv. Territ.* ii. p. 253 (1876).

Type, *N. volsella*, Scudd., from Mexico.

## Genus XXV. ANCISTROGASTER, Stål.

Stål, *Æfv. Vet.-Akad. Förh.* xii. p. 349 (1855); *Scudd. Bull. U.S. Geol. Surv.* ii. p. 253 (1876); *Proc. Bost. Soc. Nat. Hist.* xviii. p. 288 (1876).

Type, *A. luctuosus*, Stål, from Brazil.

There is a single specimen of a new species from Australia in the Museum Collection, with lateral hooks on the abdominal segments, as in *Ancistrogaster*, but differing much in the shape of the body and forceps. I forbear to describe it, as it must belong to a new genus, and I prefer to wait till more specimens are obtained.

## Genus XXVI. OPISTHOCOSMIA, Dohrn.

Dohrn, *Stett. ent. Zeit.* xxvi. p. 76 (1865).

Type, *O. centurio*, Dohrn, from the Indo-Malayan Islands.

## OPISTHOCOSMIA HUMERALIS, sp. n.

Long. corp. 11 millim.; segm. ult. cum forcip. 4 millim.

*Female.* Pitchy brown; head dull red; antennæ at least 11-jointed, all the joints beyond the 4th cylindrical and very long; 3 and 4 rather thicker, and together not much longer than any of the following ones, being about twice as long as broad; antennæ blackish, joint 10 whitish except at the base; pronotum black, narrower than the head and rounded behind; its lateral margins, the legs, a broad band on the basal half of each of the tegmina, and a large basal spot on the nearly black wings, luteous; abdomen with the 2nd segment laterally tuberculate; forceps half as long as the abdomen, slightly thickened at the base and very slightly denticulated on the inner edge, gradually curved, and meeting at the tips.

*Hab.* Ceylon.

Allied to *O. centurio*, but smaller and differently coloured.

## OPISTHOCOSMIA (?) CERVIPYGA, sp. n. (Plate XII. figs. 12, 12 a.)

Long. corp. 17 millim.; segm. ult. cum forcip. 7½ millim.

*Male.* Black; eyes red; mouth-parts, the long inferior spine of the forceps and the tip mostly red; antennæ pubescent, with long joints, joint 7 white except at the base (the remaining joints wanting); vertex smooth; occiput reddish brown, it is separated

off by a deep channel running between the eyes and, as well as the vertex, is slightly depressed on the median line; pronotum oblong, channelled in front, the sides and the hinder lobe raised; tegmina and wings dull black, the latter very narrowly edged outside with reddish; the projecting part about one third as long as the tegmina; legs very long, ferruginous; femora reddish brown. Abdomen very finely punctured, narrow at the base, but widely expanded beyond, the first 4 segments tuberculated on the sides, the terminal segment with the extremity depressed, with 2 slight elevations at the base of the forceps, and the hinder edge raised. Forceps stout, raised, diverging, and then converging; they first form a short curve upwards, and then a much longer one at almost a right angle downwards; about the curve is a short strong spine directed backwards; beneath they are slightly denticulated towards the base; the long downward curves end in long, sharp, slightly incurved spines, above which the forceps rise again in short rounded curves, ending beneath in shorter spines; and they then rise again to form curved terminal spines, the tips of which touch.

*Hab.* Sarawak.

Very similar to *Forficula longipes*, De Haan, but much larger; and in *F. longipes* ♂ only the first two abdominal segments are tuberculated; the species likewise differ in colour and in the shape of the forceps.

#### Genus XXVII. ANECHURA, Scudd.

*Scudd. Proc. Bost. Soc. Nat. Hist.* xviii. p. 289 (1876).

Type, *Forficula bipunctata*, Fabr., from Europe.

This species is included by Dohrn in his first section of *Forficula*; but few of the other species which he places with it are congeneric with either *Forficula* or *Anechura*. Several new genera will ultimately be required for their reception; but for the present they may be temporarily associated with *Sphingolabis*.

#### Genus XXVIII. FORFICULA, Linn.

*Linn. Syst. Nat.* i. p. 423 (1758); *Serv. Orth.* p. 35 (1839);

*Dohrn, Stett. ent. Zeit.* xxvi. p. 84 (1865).

Type, *F. auricularia*, Linn., from Europe.

This genus must be restricted to those species in which, as in

*F. auricularia*, the forceps are flattened and contiguous at the base in the male and diverge afterwards.

FORFICULA CORIACEA, sp. n.

Long. corp. 11 millim. ; segm. ult. cum forcip. 3 millim.

*Female.* Rufo-testaceous ; head dark reddish brown ; tegmina and wings purplish brown, except the base of the former ; tips of front femora and all the tibiæ and tarsi brown, as is also the scape of the antennæ (the rest wanting) ; last two segments of the abdomen shining black above, beneath more inclining to reddish ; forceps black, with a pale spot at the base of each, and the tips inclining to reddish ; the latter are simple, slightly incurved and upturned. The insect is set with short hairs and is finely coriaceous. The second segment of the abdomen is laterally tuberculate, and the terminal segment is unusually long, and its upper extremity ends in a concave carina.

*Hab.* Sierra Leone.

A peculiar species, not closely allied to any other, and easily recognizable by the dark head and apical segments.

FORFICULA PICTA, sp. n.

Long. corp. 8-9 millim. ; segm. ult. cum forcip. 2-3 millim.

Antennæ chocolate-brown, scape yellow ; head yellow (chocolate-brown above in the male) ; tegmina obliquely divided, the basal and outer half being yellow and the inner and hinder half chocolate-brown ; pectus, legs, and wings wholly yellow ; abdomen reddish-chocolate ; forceps of male widened and contiguous at base, gradually curving beyond to meet at the tips, unarmed ; those of the female contiguous throughout and crossing at the tips ; pronotum slightly longer than broad, rounded behind ; abdomen moderately punctured, the 2nd and 3rd segments tuberculate.

*Hab.* Zululand.

FORFICULA PLANICOLLIS, sp. n.

Long. corp. 11 millim. ; segm. ult. cum forcip. 4 millim.

*Female.* Head and abdomen castaneous ; pronotum black, the lateral margins, tegmina, and wings testaceous ; abdomen thickly and coarsely punctured ; forceps rather long, subcontiguous, nearly straight, but meeting at the tips.

*Hab.* North India.

Allied to *F. auricularia*, Linn.



Genus XXIX. SPHINGOLABIS, *De Borm.*

*De Borm. Ann. Soc. Ent. Belg.* xxvii. p. 59 (table) (1883).

Type, *S. furcifera*, De Borm., from Sumatra.

This genus has never been properly characterized, and I cannot venture to do this now, because the typical species is not before me. *Sphingolabis*, however, removes from *Forficula* all the species not yet assignable to other described genera in which the male forceps are divergent at the base; and though it may now be used provisionally in this wide sense, it must later on be subdivided into numerous smaller genera.

## SPHINGOLABIS VARIEGATA, sp. n.

Long. corp. 15 millim.; segm. ult. cum forcip. 5 millim.

*Female.* Reddish brown, the pronotum (except the margins), the sides of the basal segments of the abdomen, and the last segment shading into blackish; antennæ at least 12-jointed, the joints comparatively short; joints 10 and 11, the lateral and hinder margins of the pronotum, and the penultimate segment of the abdomen pale testaceous; tegmina tricoloured; a broad reddish stripe on the suture, a yellowish-testaceous stripe in the middle, and the outer edge blackish; wings reddish, the borders right round to the sutural margin yellowish testaceous; legs reddish, the knees and tarsi shading into testaceous; pygidium rounded; forceps rather long, moderately stout, not closely approximating at base, unarmed, slightly incurved, and meeting at the tips.

*Hab.* Sierra Leone.

Somewhat resembles *S. africana*, Dohrn.

## SPHINGOLABIS BIPARTITA, sp. n.

♂. Long. corp. 13–16½ millim.; segm. ult. cum forcip. 6–7½ millim. ♀. Long. corp. 10 millim.; segm. ult. cum forcip. 3 millim.

Head and front of pronotum pale red above; sides and hind part of pronotum pale testaceous, the two colours sometimes separated by a dusky crescent; antennæ and abdomen darker red, the lateral tubercles on the 2nd and 3rd segments of the abdomen surrounded with blackish; tegmina and wings pale yellow, the former with a reddish or brownish band on the suture hardly extending to the wings; legs pale yellow. Pronotum as broad as the head, subquadrate rounded behind; tegmina nearly three times as long as the pronotum, and wings nearly half as long

as the tegmina; head, tegmina, and wings finely coriaceous. Abdomen above covered with large depressed punctures; the last segment deeply depressed in the middle of the hinder half, with an elevation on each side; pygidium short and broad, curved at the extremity; male forceps with a very large triangular projection near the base, dentated and nearly touching at the extremity, then slightly curved outwards, afterwards gradually approximating till the hooked tips (which shade into blackish, the rest being red) meet; they are unarmed, except the projection at the base. In the female the forceps are simple, subcontiguous, and meet at the tips, where they are slightly raised.

*Hab.* India.

This species resembles *S. africana*, except in the large tooth near the base of the forceps in the male, which indicates a nearer affinity to typical *Forficula*.

SPHINGOLABIS (?) SUBAPTERA, sp. n.

Long. corp. 15 millim.; segm. ult. cum forcip. 5 millim.

*Male.* Subdepressed; head above, pronotum, tegmina, and basal half of femora black, shining, very finely punctured; antennæ at least 13-jointed, set with short raised bristles, the 3 basal joints rufo-testaceous, the remainder castaneous; face, under surface, and legs, beyond the middle of the femora, rufous; hinder and lateral edges of pronotum narrowly testaceous. Pronotum nearly square; tegmina half as long again and truncated at the extremities; wings not visible. Abdomen reddish chestnut, the sides rugose, and black above to beyond the middle; 3rd segment with very distinct tubercles, sometimes reddish; the hinder half of segment 4 and the middle segments very strongly rugose above in the centre, the others less so, and the basal and terminal segments nearly smooth; terminal segment rather large, truncated at the extremity, and slightly raised; pygidium very large, nearly of the form of a truncated isosceles triangle, but with the base suddenly widened; forceps rather thickened at the base, but widely separated, curving gradually inwards and slightly downwards and meeting at the tips; near the base is a very large sharp tooth, directed downwards and backwards, below the extremity of the pygidium; there is also a smaller tooth on the inner edge at about the middle of the length of the forceps.

*Hab.* Queensland.

Not closely allied to any known species, and only provisionally referred to *Sphingolabis*.

SPHINGOLABIS SPICULIFERA, sp. n. (Plate XII. figs. 7, 7 a.)

Long. corp. 17 millim.; segm. ult. cum forcip. 8 millim.

*Male*. Head dark chocolate-brown; pronotum rather narrower than the head and nearly twice as long as broad, black, lateral borders testaceous; antennæ and abdomen reddish, except the neighbourhood of the lateral tubercles on the 3rd segment of the abdomen, which is black; tegmina testaceous, with a blackish band on the suture; wings not visible; legs testaceous; head, pronotum, two basal segments of abdomen, and terminal segment (except two parallel longitudinal spaces on the back) very finely coriaceous; the rest of the abdomen with deep round punctures; pygidium not prominent, but armed with a long sharp spine, nearly two millimeters in length, projecting between the base of the forceps; forceps wide apart, thickened and diverging at base, then curving gradually downwards and upwards; just beyond the base is a rather strong tooth on the *upper* surface, and the inner curve is denticulated throughout, as far as a small tooth just before the upward turn of the tips, at about four fifths of the length of the forceps.

*Hab.* New South Wales.

Allied to the South-American *S. gracilis*, Burm., and *S. suturalis*, Serv.; but in these species the pygidial spine is much smaller; wings are present; and the sides of the abdomen are parallel. In *S. spiculifera* the abdomen widens considerably from the base to the extremity.

SPHINGOLABIS BINOTATA, sp. n.

Long. corp. 13 millim.; segm. ult. cum forcip. 5 millim.

*Male*. Head above and front of pronotum blackish; mouth-parts, scape of antennæ (all present), and legs rufo-testaceous; sides and hinder half of pronotum pale testaceous; pronotum oblong, a little longer than broad; head, pronotum, and tegmina all coriaceous; tegmina reddish chocolate, nearly twice as long as the pair together are broad; wings half as long as the tegmina, with a large yellow spot at the base, the suture red, and the tips otherwise blackish. Abdomen dull reddish, the 2nd and 3rd segments tuberculate, terminal segment blackish; pygidium dull red, longer than the last dorsal segment, and of the form of a

truncated cone, grooved above towards the extremity; forceps red, nearly as long as the exposed part of the abdomen, separated at base, unarmed, gradually curved, unusually uniform in thickness, hairy, and somewhat obtuse at the tips.

*Hab.* Colombia.

SPHINGOLABIS (?) PERPLEXA, sp. n.

Long. corp. 14 millim. ; segm. ult. cum forcip. 6 millim.

*Male.* Dark chestnut; legs paler; base of femora, tarsi, and tips of wings testaceous; antennæ 9-jointed, joints 5-9 very long, terminal joint testaceous, except at base; pronotum narrower than the head, castaneous, sides testaceous; pleura black. Abdomen reddish testaceous; sides of segments 2, 3, 6, and 7 tuberculate; forceps laterally compressed, widely apart at base, slightly diverging, and curving upwards in a strong triangular tooth, thence curving inwards till they nearly touch at half their length, then angulated and running horizontally in a very slight inward curve; the pointed tips are crossed at the extremity; the inner edge is denticulated throughout its whole length; and all parts of the body of the insect are sparsely set with rather long erect bristles.

*Hab.* Rio.

This species does not appear to be allied to any previously described, and will doubtless be placed in a new genus when a series is obtained.

SPHINGOLABIS MERIDIONALIS, sp. n.

Long. corp. 12 millim. ; segm. ult. cum forcip. 4 millim.

*Male.* Head above, pronotum, wings, and forceps, except at the base, blackish; antennæ at least 9-jointed, the joints, except the 2nd and 3rd, very long, sparingly pilose, rufous towards the base and blackish towards the extremity; joint 8, and sometimes the extremity of joint 7, white; sides of pronotum narrowly testaceous, and a testaceous spot at the extremity of the suture of the wings; tegmina, abdomen, and extreme base of forceps castaneous; sides of abdomen blackish towards the base, segments 2 and 3 tuberculated; legs testaceous; pygidium bowl-shaped, with a slight projection on the lower surface on each side; forceps regularly curved, denticulated towards the base, a very

strong rectangular tooth beyond the middle, and a much more obtuse prominence before the tips, which are somewhat attenuated.

*Female* (?). Brownish black; antennæ 13-jointed, castaneous, darker at base, vertex slightly reddish; lateral borders of pronotum, tegmina, except a broad blackish band on the suture, and legs testaceous; wings not visible; pygidium longer and narrower than in the male, triangular above, and with the projecting lateral points much more conspicuous; forceps shaped as in the male, minutely denticulated on the inner edge, but without larger teeth.

*Hab.* Theresopolis.

Apparently allied to *Forficula parvicollis*, Stål.

#### Genus XXX. APTERYGIDA, *Westw.*

*Westw. Mod. Class. Ins.* ii. *Gen. Synopsis*, p. 44 (1840).

Type, *Forficula albipennis*, Charp., from Europe.

This genus will include the small subapterous European species with forceps diverging at the base in the male, which are included by some authors with *Forficula*, and by others with *Chelidura*. All the species which properly belong to *Sphingolabis* have fully developed organs of flight.

#### Genus XXXI. CHELIDURA, *Serv.*

*Serv. Ann. Sci. Nat.* xxii. p. 36 (1832).

Type, *Forficula aptera*, Charp., from Europe.

#### Genus XXXII. CARCINOPHORA, *Scudd.*

*Scudd. Proc. Bost. Soc. Nat. Hist.* xviii. p. 291 (1876).

Type, *Chelidura robusta*, Scudd., from Peru.

Not represented in the Museum Collection.

#### *Doubtful Genera.*

#### Genus XXXIII. (?) CONDYLOPALAMA, *Sund.*

*Sund. Forh. Skand. Naturf.* iv. p. 255 (1847); *Scudd. Proc.*

*Bost. Soc. Nat. Hist.* xviii. p. 292 (1876).

Type, *Condylopalama agilis*, Sund., from Brazil.

## Genus XXXIV. TYPHLOLABIA, Scudd.

Scudd. Proc. Bost. Soc. Nat. Hist. xviii. p. 300 (1876).

Type, *Forficula* (?) *lævis*, Phil., from Chili.

Believed to belong to the genus *Iapyx*, Hal. (*Thysanura*).

## DESCRIPTION OF PLATE XII.

- Fig. 1. *Labidura pugnax*.  
 2. *Demogorgon patagonicus*.  
 3, 3 a. *Demogorgon Batesi*.  
 4. *Chelisoches* (?) *picticornis*.  
 5. *Chelisoches tenebrator*.  
 6. *Spongophora Dysoni*.  
 7, 7 a. *Sphingolabis spiculifera*.  
 8. *Labia buprestoides*.  
 9. *Echinosoma Forbesi*.  
 10. *Anisolabis rufescens*.  
 11, 11 a. *Pygidicrana Horsfieldi*.  
 12, 12 a. *Opisthocosmia* (?) *cervipyga*.

On a Variety of *Alectona Millari* (Carter). By A. VAUGHAN JENNINGS, F.L.S., F.G.S., Lecturer on Comparative Anatomy to the Birkbeck Institute.

[Read 20th November, 1890.]

(PLATE XIII.)

IN his 'Monograph of the British Spongiadæ,' Dr. Bowerbank\* figured a siliceous spicule, remarkable for its resemblance in form to that of a *Gorgonia*, as belonging to a sponge that had "never yet been determined."

Mr. Carter in 1879 † described similar spicules associated with microscleres of his sceptrella type, occurring in a homogeneous dried sarcode. The sponge appeared to be of an excavating habit, but on account of its association with *Cliona* this could not be determined with certainty. He referred it to the genus *Gummina* ‡ under the name of *G. Wallichii*.

\* Vol. i. pl. xi. no. 244.

† Annals and Magazine of Natural History, 1879, vol. iii. p. 353.

‡ Written *Corticium* but corrected subsequently.

